IOWA HIGHWAY RESEARCH BOARD

Minutes of May 30, 2003

Regular Board Members Present

J. Adam
R. Ettema
T. Fonkert
R. Gould
L. Greimann
D. Julius
B. Keierleber
J. Krist
K. Mahoney
C. Marker
M. Nahra
J. Selmer
C. Van Buskirk

Alternate Board Members Present

D. Short for L. Brehm
J. Berger
J. Ites
L. Jesse
G. Miller

Board Members With No Representation

G. Parker

Secretary

M. Dunn

Visitors

Jenny Balis	*FHWA*
Sara Buseman	*Iowa Department of Transportation*
Ed Engle	*Iowa Department of Transportation*
Michelle Fields	*Iowa Department of Transportation*
Sandra Larson	*Iowa Department of Transportation*
Mohammad Mujeeb	*Iowa Department of Transportation*
Kelly Poole	*Iowa Department of Transportation*
Bob Steffes	*Iowa Department of Transportation*
James Cable	*Iowa State University*
Fouad Fanous	*Iowa State University*
F. Wayne Klaiber	*Iowa State University*
Kejin Wang	*Iowa State University*
Steve Andrle	*Iowa State University/CTRE*
Tom McDonald	*Iowa State University/CTRE*

The meeting was held in the Large Materials Conference Room at the Iowa Department of Transportation, Ames, Iowa. The meeting was called to order at 9:00 A.M. by Dr. Rob Ettema.

Agenda review/modification

- Agenda item number nine, Problem Statement, "Thin Maintenance Surfaces - Phase III" will be presented at a later meeting.

Approval of the minutes

- Christy Van Buskirk moved to approve the minutes from the April 25, 2003 meeting with no additions or corrections. John Adam seconded. Carried with 13 yes, 0 no, and 0 abstaining.

Announcement of alternate member changes

- John Rasmussen, Montgomery County Engineer, has been selected to serve as the alternate for Charles Marker, Cass County Engineer, for District 4.

- John Joiner, Civil Engineer for the City of Ames, has been selected as the alternate for Greg Parker, City Streets Director for the City of Cedar Rapids.

Review of proposal from 2nd solicitation for FY 02-03
Manual of Iowa Drainage Law

- One proposal was received from Stephen Andrle, Iowa State University/CTRE.

- *Comments/Discussion:*
  - It was mentioned that the proposal seemed responsive to what was requested in the RFP. Specifically, the inclusion of the frequently asked questions sheets that can be shared with landowners was complimented.
  - It was felt that there was a good literature search done prior to the proposal to find what is currently published. It was suggested that the Principal Investigator (PI) consider this type of information and possibly contact other authors for helpful guidance in developing the manual for this research project.
  - The aspect of review and maintenance of the manual was discussed. It was recommended that the technical advisory committee set up for this project review the manual, related court cases and legislative changes possibly every 5 years. If the committee feels that there is need for an update, the recommendation can be presented to the Board. The committee can discuss this issue more in depth as the project progresses.

- *Issues/Concerns that the board would like staff to address:*
  - None

- *Vote to approve:*
  - Mark Nahra moved to accept the proposal with a funding split of 20% Primary, 75% Secondary, and 5% Street. Todd Fonkert seconded. Carried with 14 yes, 0 no, and 0 abstaining.

Proposal, "Field Testing of Railroad Flat Cars (RRFC) Bridges"

- Dr. F. Wayne Klaiber, Iowa State University, presented the background information and photos of bridges constructed under the previous IHRB research projects, TR-421 and TR-444. He then addressed the objectives, research plan, evaluation process, proposed implementation, project schedule, report schedule and budget of the proposed research.

- It was discussed that this research would provide information that would be applicable for a variety of railroad cars, but limited on connection options. This phase of research will review four additional connection options. Two options have been reviewed to this point.

- John Adam moved to approve the proposal with the funding 100% Secondary. Christy Van Buskirk seconded. Carried with 13 yes, 0 no, and 1 abstaining.

Final report, TR-429, "Evaluation of Appropriate Maintenance, Repair and Rehabilitation Methods for Iowa Bridges"

- Dr. Fouad Fanous, Iowa State University, reviewed the focus group goals, research objectives, compilation of MR & R procedures, report organization, repair procedure, examples of case studies, design considerations, analysis of deteriorated piles, summary and recommendations of the research completed.

- There was discussion on evaluating the strength of the piling when the outside looks good, but the inside is deteriorating. The example shown was simpler, but analysis of this can be done. Either with testing a sample or assigning upper and lower limits with some confidence and using those numbers, a model can be developed.

- It was mentioned that this research was largely focused on the structural aspects of bridge maintenance. At the Bridge Management Conference, there was interest expressed in having more research done in this area to have the scope include bridge waterways.

- Charles Marker moved to accept the final report. Brian Keierleber seconded. Carried with 14 yes, 0 no, and 0 abstaining.

Final report, TR-479, "Investigation into Improved Pavement Curing Materials and Techniques: Part II (Phase III)"

- Dr. James Cable, Iowa State University, presented the background information from the lab work done in IHRB projectTR-451. He then reviewed the 3 different curing compounds used, the application techniques used on the various test sections, the evaluation tests used and the results of Phase III of this research.

- It was discussed that the surface layer of the concrete has properties that are quite different from the middle and bottom layers. The vibrator can cause some differences to the top two or three inches. However, this difference seemed to lessen if the curing material was applied correctly and with good coverage.

- It was also mentioned that the use of burlap, water, and plastic, although it performs well, is not feasible to use in constructing roads, due to cost and time considerations. With curing compound, application is done right behind the paver.

- Mark Nahra moved to accept the final report. Brian Keierleber seconded. Carried with 14 yes, 0 no, and 0 abstaining.

Review of information from additional projects

Dr. Cable reviewed information from two other IHRB projects with which he is involved.

- TR-490, "Stringless Portland Cement Concrete Paving."
  - Delaware County is the last one left from the initial three counties with a paving project accepting bids using this type of technology. The others did not end up with bids containing stringless paving. Bids will come in June for the Delaware County project.
  - Technology has been spurred along by the interest shown with the support of this research project and there is now a competitor. The competitor is near to putting something into the field. If nothing is done this year, it is quite probable that it could happen next year.

- TR-478, "Evaluation of Composite Pavement Unbonded Overlays: Phases I and II"
  - The construction report for this research will be sent out with the June Board packet.
  - Please note the following items that were added to the research scope, but were not called for in the work that was done under the initial Federal Highway Administration contract: Appendix A, "Maturity Measurement Equipment Evaluation"; and Appendix D, "Cross Sectional Structural Analysis."

Final report, HR-370, "Pipe Rehabilitation with Polyethylene Pipe Liners"

- Ed Engle, Iowa Department of Transportation, discussed the background information, objectives, project locations, slip-lining process, grouting, performance, economics, conclusions and recommendations of the research.

- Self-consolidating concrete and concrete with high air content were thought to be good options to use for grouting if it doesn't have structural issues.

- In considering the economics of the different options, the life of the slip-liner was believed to be approximately the same, possibly longer, than if the culvert were to be completely replaced, due to the durability of polyethylene. A regular plastic culvert could burn all the way through. The manufacturer's research on flammability stated the polyethylene could possibly burn on the ends, but not all the way through. With grass fires as an issue, this becomes an important part of the decision process.

- Brian Keierleber moved to accept the final report. John Adam seconded. Carried with 14 yes, 0 no, and 0 abstaining.

Problem statement, "Evaluation of Compensatory Wetland Mitigation Program in Iowa"

- Kelly Poole, Iowa Department of Transportation, presented the problem statement, objectives, research plan, time frame, budget, reports schedule, benefits and potential future research funding plan of the proposed research.

- This problem statement comes to the Board now due to applying for the EPA grant and having the responsibility of showing in-kind support and other funding.

- It was clarified that this study would be for the mitigation program that the Water Resources Section of the Iowa DOT administers. However, the information collected could be easily transferred the cities and counties.

- Federal and state laws require that these sites are monitored and maintained for a period of at least 5 years. The Iowa DOT mitigation budget ranges from about $800,000 to $1,000,000 annually with approximately 25% of that going towards remediation and managing the sites. This research would give the base information to better understand the success or failure of that monitoring which would be carried further with more funding. This request is for funding to cover a 12- month study. Further funding will be requested from the EPA.

- It was agreed that this project would be funded with 100% Primary funds.

- John Selmer moved to approve the problem statement and have a proposal brought back to the Board for consideration. Mark Nahra seconded. Carried with 14 yes, 0 no, and 0 abstaining.

Review of changes to the IHRB Business Plan

- It was recommended the language "strategic program plan" be changed to "prioritized list of research needs" to more accurately define the Board's activities.

- It was agreed to expand the Vision Statement to read, "Research that makes a positive difference **to the transportation system in Iowa**."

- Charles Marker moved to approve the Business Plan with the above recommendations. Todd Fonkert seconded. Carried with 14 yes, 0 no, and 0 abstaining.

- The Business Plan is available on the Materials-Research web page at the following address: http://www.dot.state.ia.us/materials/research/ihrb/iowa_highway_research_board.html. Select "Business Plan" from the menu box on the right side of the window.

Finalize location of 2003 IHRB traveling meeting

- Brian Keierleber will host the June meeting at Fontana Park in Buchanan County. Following the meeting, the Board will observe a paving project that is using the longitudinal joint former. It should time well with the date. There will be alternative plans made incase of bad weather. Specific directions and details will be sent out with the June Board packet.

New Business

- None.

Dr. Rob Ettema adjourned the meeting.

Date of Next Meeting: THE NEXT MEETING WILL BE HELD FRIDAY, JUNE 27, 2003 AT 9:00 A.M. AT FONTANA PARK, SOUTH OF HAZLETON, IOWA IN BUCHANAN COUNTY.

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Mark Dunn, IHRB Secretary